

# 2016 MODEL INFORMATION



MODEL NAME

**KX450F**

MARKETING CODE

**KX450H**

Version: 2 June 2015

Canadian model may not be exactly as shown.

**Kawasaki**



# KX450F: LIGHTER AND FASTER WITH MORE NEW TECH FOR 2016

KX design philosophy is simple: put mid-level to expert riders on the top step of the podium. This philosophy has not changed since the creation of the KX brand over 40 years ago. With 32 AMA Supercross titles to its credit, the most of any manufacturer, KX has a proven record of powering champions. Significant weight reduction to engine and chassis for 2016 delivers sharper handling complemented by a slimmer chassis and an even more powerful engine, further increasing its circuit potential.

## Convincing Results



Racing Dominance



## Industry-leading Performance

### NEW Even more powerful engine

- Revised cylinder head
- Revised intake valves and intake cam timing
- Change to offset cylinder
- Exhaust system revisions
- Rear intakes added and other intake system revisions

**Factory tuning:**  
Bridged-box bottom piston

**Holeshot Advantage: Launch Control Mode**

**Easy engine tuning:**  
DFI Setting Data Selection

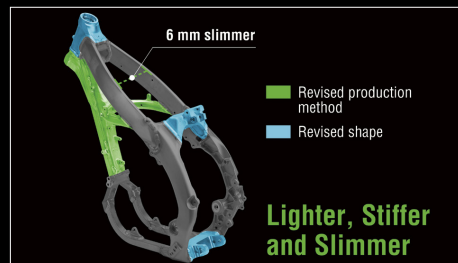
- Easy access to 3 engine maps

### NEW KX FI Calibration Kit (Accessory)

- No need for a PC: make changes using only the KX FI Calibration Controller
- Offers the same precision FI tuning as Kawasaki's works teams
- 7 preset engine maps included



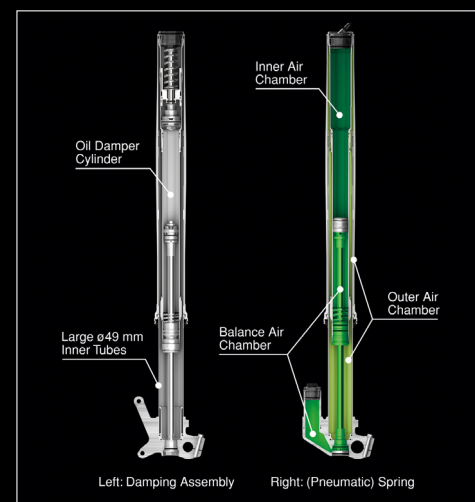
### NEW Aluminium perimeter frame with revised rigidity is slimmer, lighter



### NEW Significantly lighter chassis: **108.7 kg!**

- Engine & chassis revisions result in 3.4 kg weight savings
- Contributes to quicker turn-in and sharper handling

**Advanced suspension technology:**  
SFF-Air TAC (Triple Air Chamber)



**Oversized 270 mm petal disc**

### NEW Even flatter seat & tank facilitate riding position changes

**Adjustable Ergonomics**

- 4-position handlebar
- 2-position footpegs



## KEY FEATURES

**NEW**

### Factory styling - P.27

Aggressive new bodywork makes the bike look more compact and is complemented by factory-style design and graphics. Black alumite<sup>1</sup> rims, black fork guards, and green highlights help create a distinctive Kawasaki identity. Green alumite<sup>1</sup> finish on the suspension adjusters and green finish on some of the engine trim add to the KX450F's high-performance image.

**NEW**

### Rear intakes - P.12

Intake ducts added below the rear of the seat contribute to improved response.

**NEW**

### Slimmer, lighter aluminium perimeter frame - P.17

Aluminium perimeter frame is a narrower across the main beams, considerably lighter, and features revised rigidity contributing to greater front-end feel.

**NEW**

### Significantly reduced weight - P.16

Weighing in at 108.7 kg, the new KX450F is over 3 kg lighter than its predecessor. The weight reduction comes care of a thorough re-evaluation of both engine and chassis components.

### Setting-adjustable motocross ECU - P.9, 11

Lightweight ECU was designed specifically to withstand the rigors of motocross racing. ECU contains three engine maps (plus a fourth for Launch Control Mode). Settings for the three maps can be reprogrammed with the optional KX FI Calibration Kit.

**NEW**

### KX FI Calibration Kit (Accessory) - P.9

KX FI Calibration Controller, a portable handheld calibration tool, enables riders to make changes to engine maps by plugging into the ECU without needing a PC or battery. Comes equipped with seven preset map settings.

**NEW**

### Slimmer, flatter rider interface - P.25

All-new minimalist bodywork includes even slimmer radiator shrouds thanks to re-oriented radiators, a flatter seat and tank, and smooth seamless design that make it easier for riders to move around.

### DFI Setting Data Selection - P.8

Using the provided DFI couplers, riders can quickly and easily access their choice of three maps (standard, hard, soft) provided in the ECU.

### Launch Control Mode - P.7

Factory-style launch control system increases the chance of getting a good start by helping riders maximise traction when starting on a slippery surface.

### Adjustable handlebar position - P.24

A choice of four positions allows riders to tailor their riding position. Factory-style Renthal handlebar and pad come standard.

### SFF-Air TAC (Triple Air Chamber) - P.19

Factory-racer-style SFF-Air TAC front fork locates its damping assembly in the left fork tube and a pneumatic spring, comprised of three pressurised air chambers, in the right. Light weight, low friction, easy adjustability, a wide setting range and precise settings are some of the advantages.

### Race-ready front suspension - P.22

Super-hard titanium coating protects the fork from wear abrasion. Self-lubricating alumite coating creates a hard, low-friction surface on the outer tube, protecting the aluminium surface and further reducing friction to promote smooth fork action.

### Large-diameter brake discs - P.26

Oversized ø270 mm front disc delivers strong stopping power and excellent controllability. The factory-style front and rear petal brake discs also contribute to high-quality sporty looks.

### Factory-inspired tuning - P.6

Works-base bridged-box bottom piston (unique Kawasaki feature used for the first time on a mass-production motocrosser on the 2010 KX450F) is just one of many features inspired by our factory racers.

**NEW**

### 449 cm<sup>3</sup> liquid-cooled, 4-stroke Single with battery-less fuel injection - P.5

Fuel-injected engine offers hard-hitting power across the rev-range while ensuring stable fuel-metering in all conditions. Changes to the intake ports, intake valves and a new offset cylinder deliver even more power.

### New Uni-Trak rear suspension - P.23

Linkage mounts below the swingarm for more precise suspension tuning. Dual compression adjustability offers a wide range of tuning options. Self-lubricating alumite coating on the tank cylinder improves wear resistance and shock action.

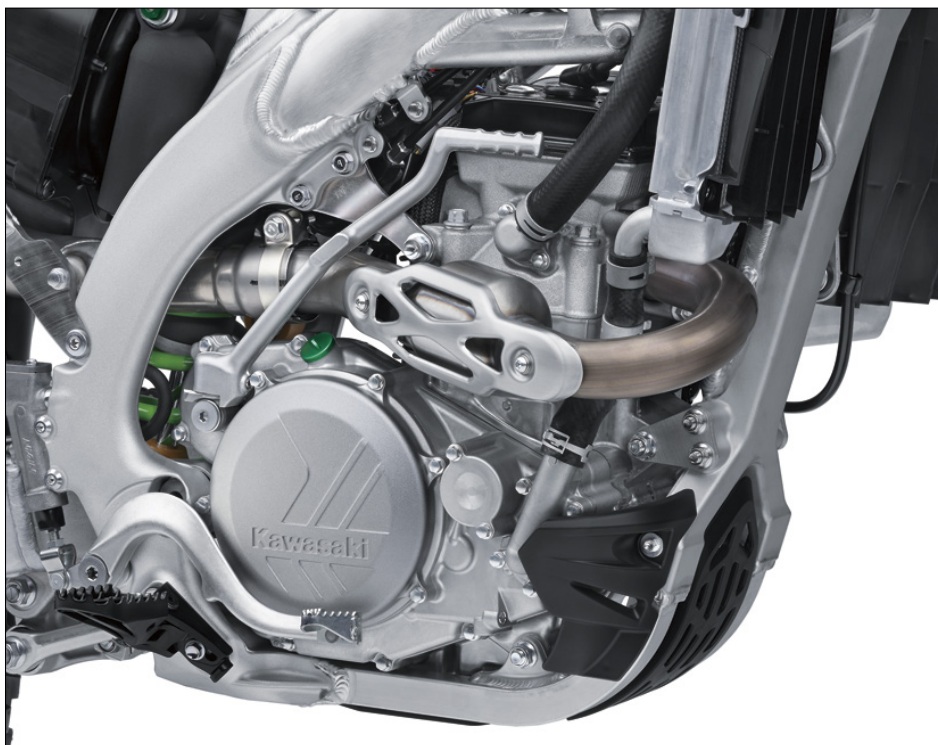
### Adjustable footpeg position - P.25

Riders can choose from two positions to suit body size and preference.



# HARD-HITTING FUEL-INJECTED POWER

Fuel-injected 449 cm<sup>3</sup> liquid-cooled, 4-stroke Single delivers hard-hitting power from low- through high-rpm. The broad powerband and responsive throttle offer a broad spread of torque response that enables racers to get on the gas and go even from down low. Race-inspired tuning and parts like the high-performance bridged-box bottom piston (a mass-production first when introduced on the 2010 KX450F) ensure top-level performance right out of the box. For 2016, an offset cylinder and numerous changes to the intake system offer even more power, the new exhaust system is quieter, and a new accessory KX FI Controller enables map calibration without a PC. Like the chassis, the engine benefits from significant weight savings, with the engine group components weighing almost 2 kg less!



## Factory-racer engine tuning

- \* High-performance piston, featuring the same design used on our factory racers, contributes to improved performance at all rpm.

A short skirt, reinforced external ribs and the use of a bridged-box bottom, featuring internal bracing, result in a lighter, stronger piston. (Photo 1)



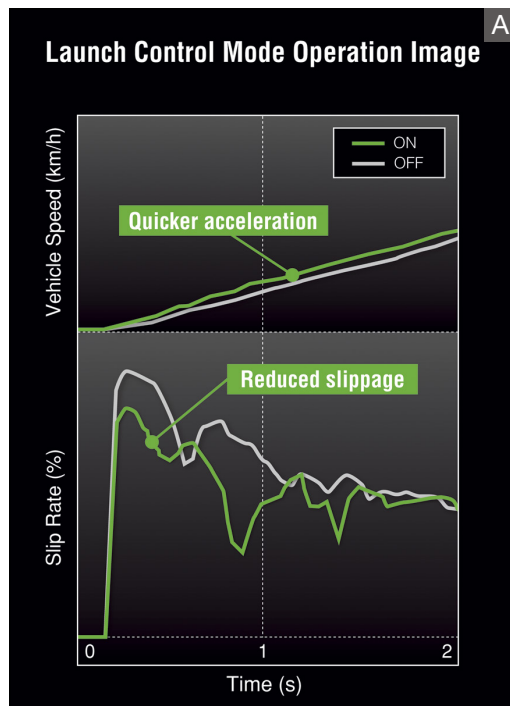
- \* ECU settings (fuel and ignition maps) ensure the ideal fuel-air mixture and offer a smoother power delivery when transitioning from low to high rpm. In addition to ensuring usable power at all rpm, the settings contribute to racer-friendly engine braking characteristics.
- \* ECU settings also include programming that enhances traction by retarding ignition when the rear wheel speed increases too quickly (i.e. from sudden, excess wheel spin).

- \* Wedge-shaped crank web increases offsetting moment for a high crankshaft balance factor. At close to 60%, the balance factor of the '16 KX450F is on par with Kawasaki's factory racers. The high balance factor contributes to reduced engine vibration, smoother power delivery and increased performance – especially at low rpm, where response is noticeably snappier.
- \* In addition to generating the electrical output necessary to ensure easy starting, the large-diameter ACG also contributes to engine feeling at partial throttle.

## The holeshot advantage: Launch Control Mode

KX motocrossers have long drawn on works technology to offer riders the best possible performance right out of the box. Launch Control Mode is just one of the factory features that give riders an edge when lining up at the start gate.

\* The KX450F features a launch control system similar to that on our factory racers. With the simple press of a button, riders can activate a separate engine map designed to ensure efficient race starts in slippery conditions. (The Launch Control Mode map retards ignition timing, allowing tires to gain grip in low-traction situations, and allowing riders to focus on their lines.) (Illustration A)



\* Launch Control Mode has the greatest effect within the first few seconds of releasing the clutch off the start. This is the most crucial time for riders to get ahead of their rivals so they are better positioned going into the first corner.

\* Even for top-level riders, controlling the massive power of a 450cc-class motocrosser off the start requires a high degree of throttle control and clutch finesse. By slightly reducing this power, Launch Control Mode helps riders maximise traction, increasing the chance of getting a good start.

\* To activate Launch Control Mode riders depress the launch control button (for two seconds or more), located at the left handle. (When activated, the indicator lamp next to the button will flash quickly to let the rider know it is on.) (Photo 2)



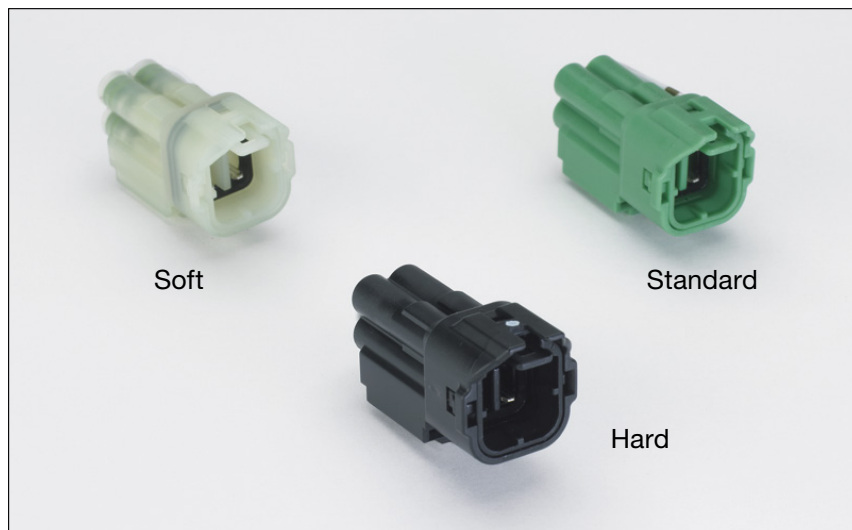
\* Launch Control Mode works in 1st and 2nd gear (and Neutral). Once the rider shifts into 3rd gear, the system is automatically disengaged, switching back to the normal engine map.

\* System designed to the same specifications as that of our AMA factory racers.



## Easy engine tuning: DFI Setting Data Selection (3 map choices)

Adjusting engine settings to suit conditions has never been easier than with the KX's DFI couplers. Plug-and-play style system is quick, easy and stress-free.



- \* Instead of a single engine map, the ECU features three (four, counting the Launch Control Mode map).
- \* Initial settings for the three maps are: Standard, Hard (conditions) and Soft (conditions). Using provided DFI couplers, riders are able to easily switch between the three maps to suit riding conditions. Plugging in each of the 4-pin couplers activates the corresponding engine map. (Plug is conveniently located on the right side of the head pipe for easy access without having to remove any parts.)
- \* Each of the three maps can be reprogrammed using the optional KX FI Calibration Kit. (Please see below.)



## Precision engine tuning: KX FI Calibration Kit (Accessory)

The updated KX FI Calibration Kit features the handheld KX FI Calibration Controller, which enables expert riders to adjust engine characteristics (by rewriting actual data maps) to suit their preference. This simple tool can be used without a PC, simply by plugging into the engine's ECU.



NEW

\* The KX FI Calibration Controller is handheld tool with a built in colour LCD screen. It comes with transfer and diagnostic cables, SD memory card, user manual and a carrying case.

NEW

\* While the controller is designed to satisfy racers and expert riders, it is simple and hassle-free to use.

- accessing the ECU is accomplished simply by connecting the controller using the provided cables (no PC or battery necessary)
- the kit's user-interface is simple to understand and easy to use
- maps can be stored on a PC: data transfer between the controller and a PC can be done via SD card

NEW

\* The KX FI Calibration Controller contains seven preset map settings that can be quickly and easily used to adjust the ECU to suit track conditions. The provided settings are shown below.

SETTING	DESCRIPTION
Richer fuel setting	fuelling 5% richer than stock
Leaner fuel setting	fuelling 5% leaner than stock
Advanced ignition setting	ignition advanced 3° from stock
Retarded ignition setting	ignition retarded 3° from stock
Hard riding surface setting	ignition retarded, fuelling richer
Soft riding surface setting	ignition advanced, fuelling leaner
Beginner setting	engine power suppressed: ignition retarded, fuelling richer

- NEW** \* For more advanced setting optimisation, the ECU maps for volume of fuel injected and ignition timing can be adjusted for given throttle position and rpm.
- NEW** \* When connected to the ECU, the KX FI Calibration Controller can be used to display the status of a running engine.
- NEW** \* KX FI Calibration Controller can be used with older fuel-injected KX models (2015 and earlier).

**For more detailed information on use and functions of the KX FI Calibration Controller, please refer to the *KX FI Calibration Controller User Manual*.**

## Battery-less fuel injection system

Designed specifically for motocrossers, the fuel injection system incorporates a small lightweight ECU and operates without a battery to further eliminate unnecessary weight. And of course, fuel injection eliminates the need to adjust engine settings to suit track and climate conditions.

- \* Ensuring quick starting without a battery was a prime directive when developing the KX450F's fuel injection system. Using only electricity generated by the kick starter, the engine can be started with only three rotations of the crankshaft. The system delivers electricity in the following order: 1) ECU, 2) fuel pump, 3) injector. With a warm engine, starting can be accomplished in a single kick.
- \* The compact, lightweight ECU, located just in front of the steering head (behind the number plate), was designed specifically for motocross use. To help cope with the shocks and vibrations of motocross riding, the fuel pump relay is built in to the ECU.

**NEW**

- \* ø43 mm throttle body is more compact and lightweight. (Photo 3)



- \* Ultra-fine atomising injector with 12 holes sprays particles with a droplet size of 60 µm for smooth power delivery and improved engine response at partial throttle.
- \* The injector was set at 45°, the optimum angle for strong mid-range power.
- \* Lightweight flat-bottom aluminium fuel pump is located in the plastic fuel tank.
- \* To ensure a stable fuel supply during vigorous motocross riding, the fuel pump features a unitised plastic fuel filter cover that wraps around the inlet port and acts as a fuel trap. (Unitising the filter cover, changing its material from rubber to plastic and eliminating the fuel return hose from the pressure regulator contribute to weight reduction.)



## Other performance-enhancing engine characteristics

- \* The engine was tuned such that the torque curve follows the limit of running resistance for as long as possible. (Unchecked, engine torque can exceed this limit, resulting in wheel spin, which does nothing to help forward momentum.)
- \* Efforts were made to achieve the widest possible torque band, so that traction efficiency would be maximised for a greater part of the rev range.
- \* The engine is almost upright (forward lean angle is 3°) to help place the bike's centre of gravity in the ideal position for maximum traction.
- NEW** \* Cylinder is offset (8.5 mm forward), reducing friction and enabling more efficient power generation.
- NEW** \* Addition of two rear intakes (holes added under the rear of the seat) allow air to enter the engine more easily, contributing to improved response. (Photo 4)



- NEW** \* Redesigned airbox does away with steel parts, resulting in a weight savings of 220 g.
- NEW** \* Intake ports are less curved, contributing to increased performance at all rpm.
- \* Asymmetrical high-acceleration cams yield high intake efficiency.
- NEW** \* Revised intake cam timing (advanced 2°) contributes to increased low-rpm performance.
- \* During the cylinder head casting process, the cores for the intake ports were given a special coating to make the intake ports smoother. The extremely smooth surfaces that result increase intake efficiency at all rpm.
- \* Lightweight titanium valves (IN: 36 mm; EX: 31 mm) reduce reciprocating weight and offer high-rpm reliability.
- NEW** \* Intake valves have a revised head area. The new design, with slimmer throat angle and reduced recess (similar to valves on supersport models) contributes to increased high-rpm performance.
- \* Aluminium valve spring retainers reduce reciprocating weight for reliable valve control at high-rpm.
- \* Double valve springs also help ensure stable valve operation and allow a short cylinder head height.
- NEW** \* Piston crown design matches the revised intake valves and maintains the compression ratio at 12.8:1, contributing to the engine's increased performance.
- NEW** \* Addition of a new resonator effectively increases the exhaust pipe length and reduces exhaust noise volume by approximately 2 dB.

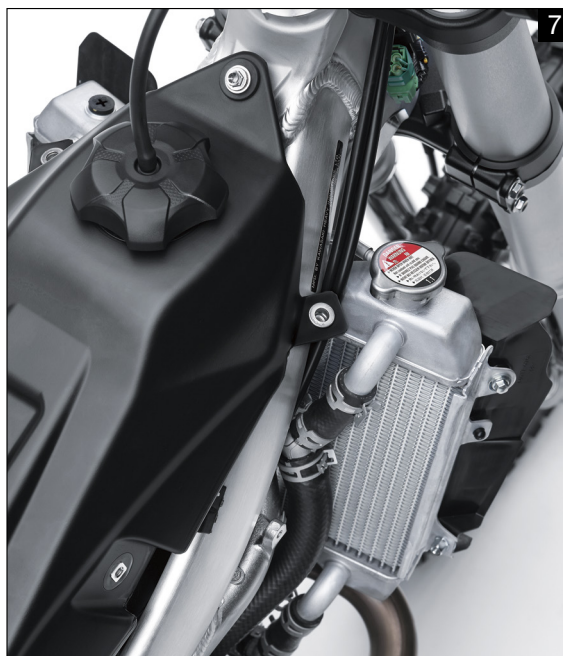
NEW

- \* Excess meat trimmed from transmission gears and shafts results in a weight reduction of approximately 260 g. (Photo 6)



NEW

- \* Revised radiator orientation (perpendicular —> turned inward) allows a slimmer shroud design, contributing to the improved ergonomics. (Photo 7)



- \* The screw-type adjuster on the cam chain tensioner is equipped with a pressure spring. Because the system automatically minimises the vibration caused by a loose cam chain, it greatly reduces the chance of a mishap during a race. (Non-automatic systems that are tuned incorrectly can actually adversely affect valve timing by putting too much pressure on the cam chain.)
- \* The combination of the smooth-shifting, close-ratio 5-speed transmission with the KX450F's low-rpm engine performance offers the rider the option to shift to a higher gear when traversing rough sections. This reduces the effect of sudden (unwanted) throttle input, allowing focus to be given to racing rather than careful throttle control.

- \* In the event of a stalled engine during a race, getting it started again as soon as possible is a racer's first priority, so the KX450F is equipped with an automatic compression release (ACR) system. The dual-weight centrifugal decompression system fitted to the exhaust cam eases starting in much the same way as a conventional lever-type system.
- \* Sprocket-style chain drive roller helps smooth engine braking by reducing the effect of driveline lash when the rider gets off the gas quickly and play in the lower side of the chain suddenly tightens. The additional control facilitates corner entry.



# FACTORY-STYLE CHASSIS COMPONENTS AND TUNING

For 2016, a slimmer new frame is one of the many components contributing to the new KX450F's trimmer form. Weighing over 3 kg less than its predecessor, the new model is quicker both in the straights and through the corners. Settings of the high-spec SFF-Air TAC front fork and Uni-Trak rear suspension were both adjusted to suit the bike's lighter weight. A slimmer, flatter rider interface further improves the adjustable racer-friendly ergonomics, helping racers to ride even faster.



## Significantly lighter chassis

A thorough revision of engine and chassis components yielded 3.4 kg in weight savings, bringing the weight of the KX450F down to a trim 108.7 kg. The lighter weight contributes to quicker turn-in and sharper overall handling.



**NEW**

\* Savings from the engine group (including intake and exhaust systems) amounted to approximately 2.0 kg; savings from chassis components totalled approximately 1.4 kg.

**NEW**

\* Some of the major contributing components include:

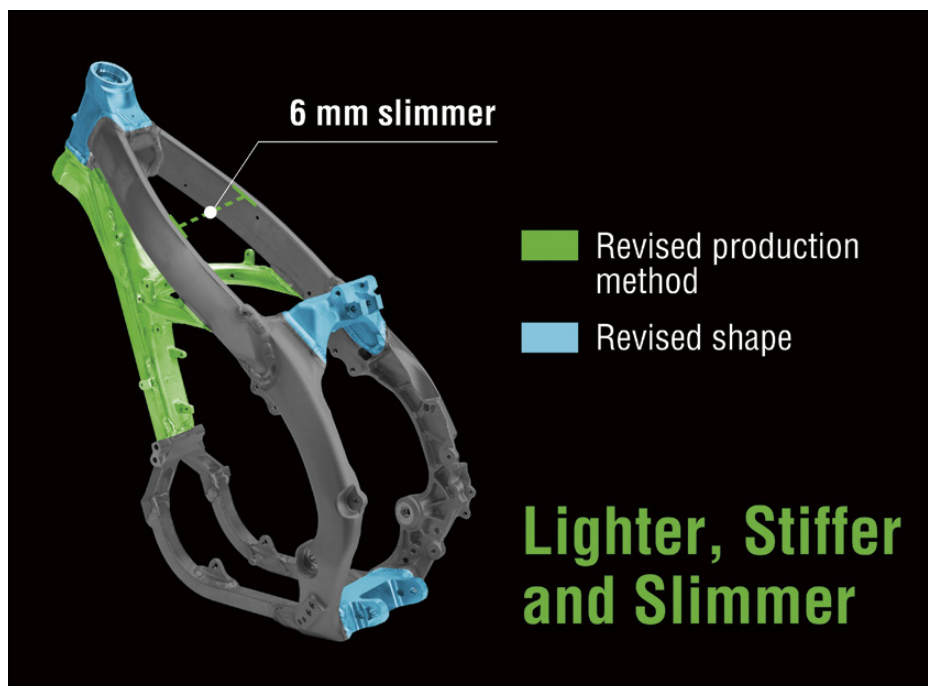
- crankcases (left/right)	370 g
- transmission	260 g
- air filter	250 g
- frame	400 g
- suspension (front/rear)	310 g
- swingarm	220 g

**NEW**

\* Smaller fuel tank has a lower top. This lowers the bike's centre of gravity, further contributing to the sharper handling.

## Lighter, slimmer aluminium perimeter frame

Revised for rigidity, the KX450F's new frame features a slimmer design and lighter overall weight.



NEW

\* Previously an extruded part, the redesigned down tube is now a combination forged/cast piece (front part is forged; rear part is cast). The new piece, along with a revised head pipe and brace tubes, contributes to greater front-end feel. (Photo 8)



NEW

\* Width across the main frames is approximately 6 mm slimmer. This facilitates position changes, making it easier for riders to slide forward and backward.

NEW

\* Weighing 400 g less than the previous unit (thanks in large part to revised head pipe and upper/lower rear shock brackets), the frame's lighter weight contributes to the bike's quicker handling.

NEW

\* Rigidity of the swingarm was also revised. The cast front portion is taller with thinner walls, and the wall thickness of the spars was idealised, with thinner side walls and thicker top/bottom walls. The new construction saves approximately 220 g.



NEW

\* Thicker walls for the sub-frame (seat rails) offer increased strength.

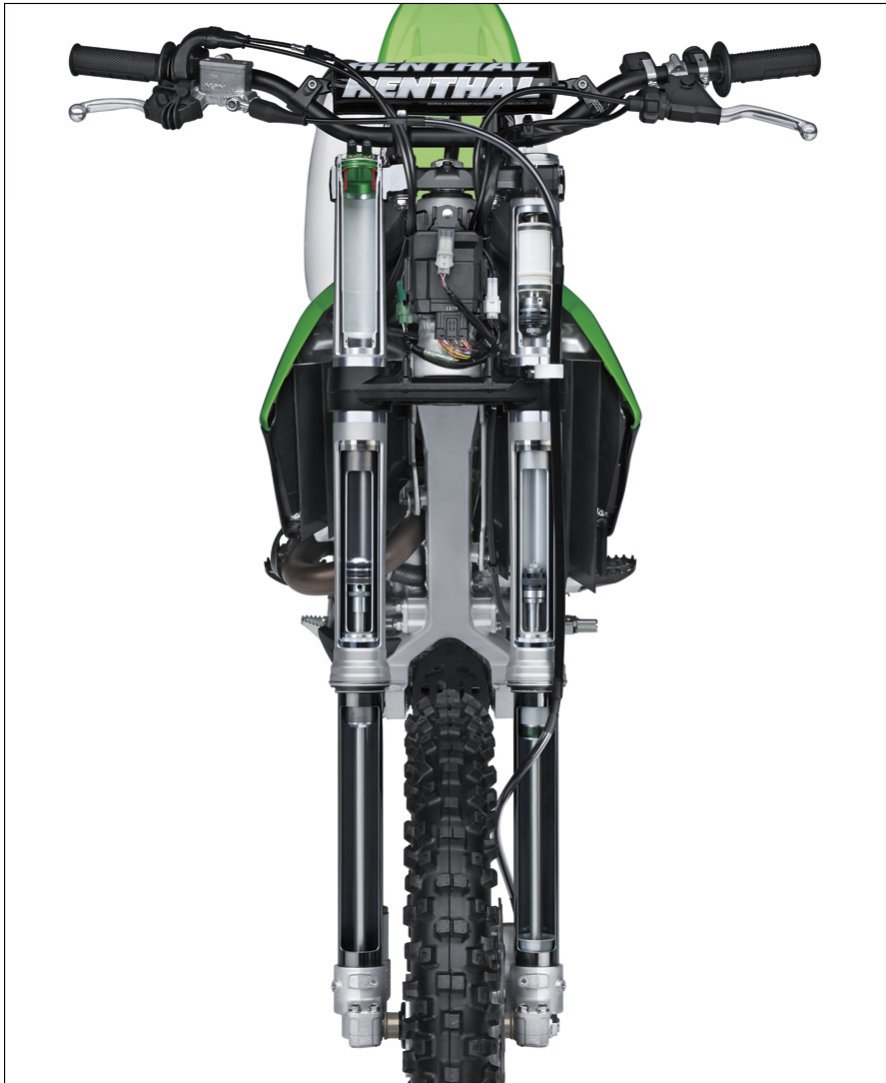
\* Slim aluminium perimeter frame is a lightweight construction composed of forged, extruded and cast parts.  
(Photo 9)



\* Chassis balance and settings were all set to suit race-experienced riders.

\* The centre of gravity and key dimensions (swingarm pivot, output sprocket and rear axle locations) were chosen so that the rear tire would drive the bike forward (instead of causing it to squat).

## Advanced race-ready suspension: SFF-Air TAC (Triple Air Chamber)



The KX450F features Showa's SFF (Separate Function front Fork)-Air TAC (Triple Air Chamber). The works-replica fork is very lightweight and highly rigid, contributing to superior riding stability. With settings chosen for high-level to expert riders, the fork offers excellent shock absorption performance at high speeds, making it easier for racers to ride faster. Numerous other benefits include:

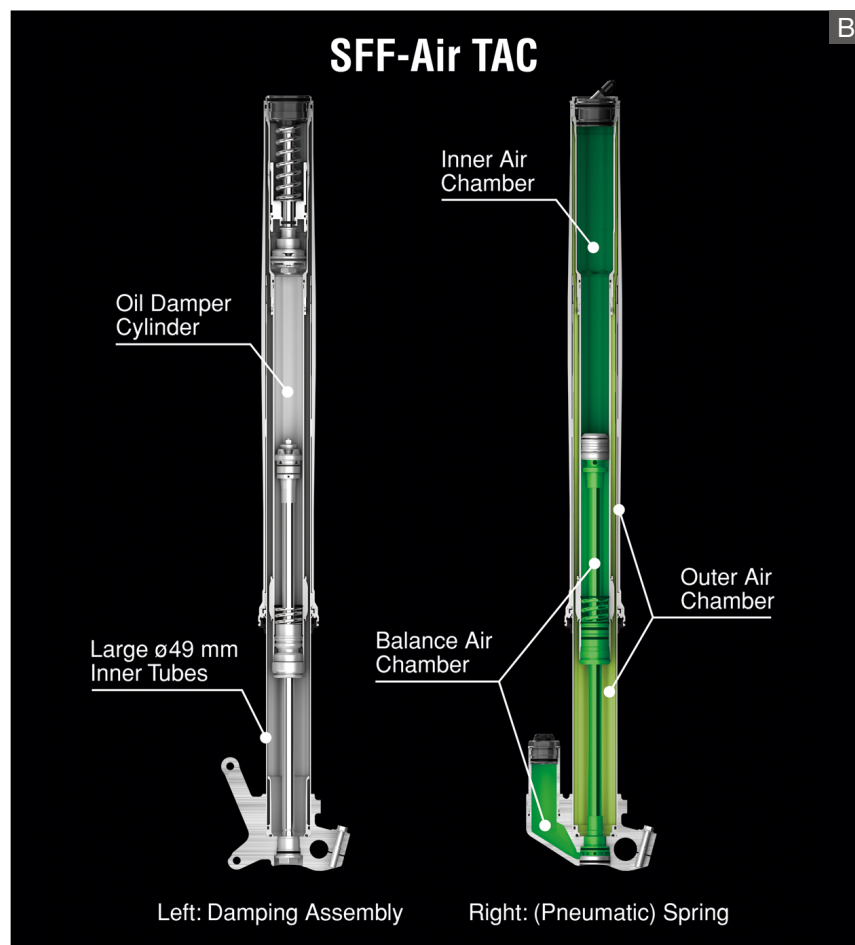


- high rigidity
- very light weight
- low friction
- reduced heat influence from damping assembly
- precise settings possible merely by changing air pressure
- easy adjustability

\* Damping and shock absorption duties are separated:

- > Left fork tube: damping assembly
- > Right fork tube: (pneumatic) spring

The configuration offers both smooth action and firm damping performance – a combination difficult to achieve with a conventional fork. (Illustration B)



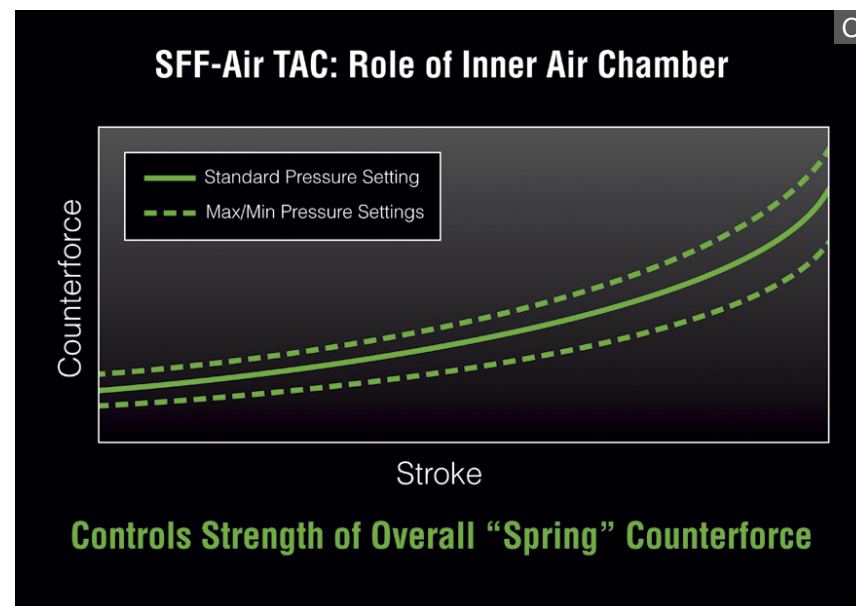
\* Using large ø49 mm inner tubes (same size used on our factory racers) contributes to high fork rigidity, resulting in a more planted feel from the front wheel.

\* Extremely lightweight construction offers significant weight savings over a conventional fork.

\* Instead of coil springs (like on a conventional fork), the SFF-Air TAC's right tube has three chambers filled with pressurised air that act as a spring:

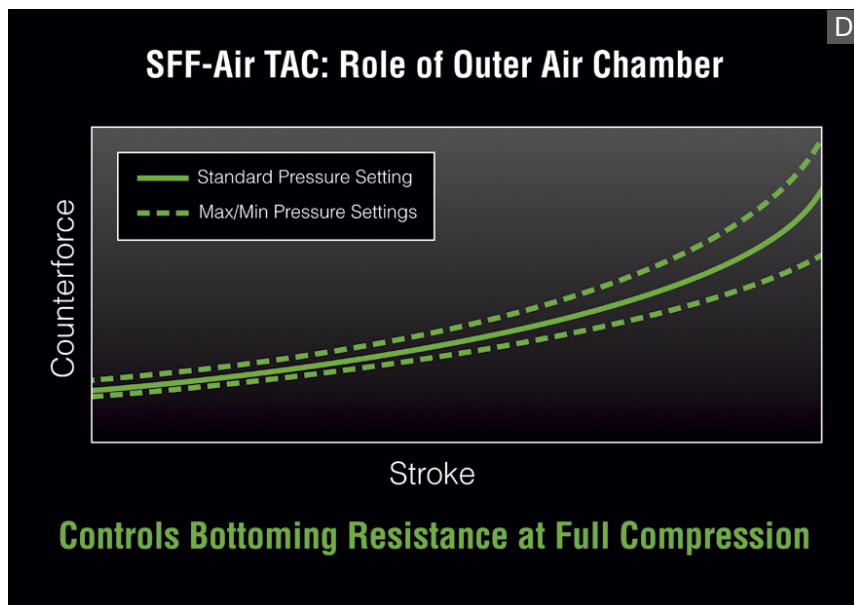
- > Inner chamber: Main air spring
- > Outer chamber: Sub air spring
- > Balance chamber: Balance air spring

\* The inner chamber, with a standard air pressure of 1,200 kPa (600-1,300 kPa range), does most of the work, supporting 60% or more of the motorcycle's weight. (Illustration C)

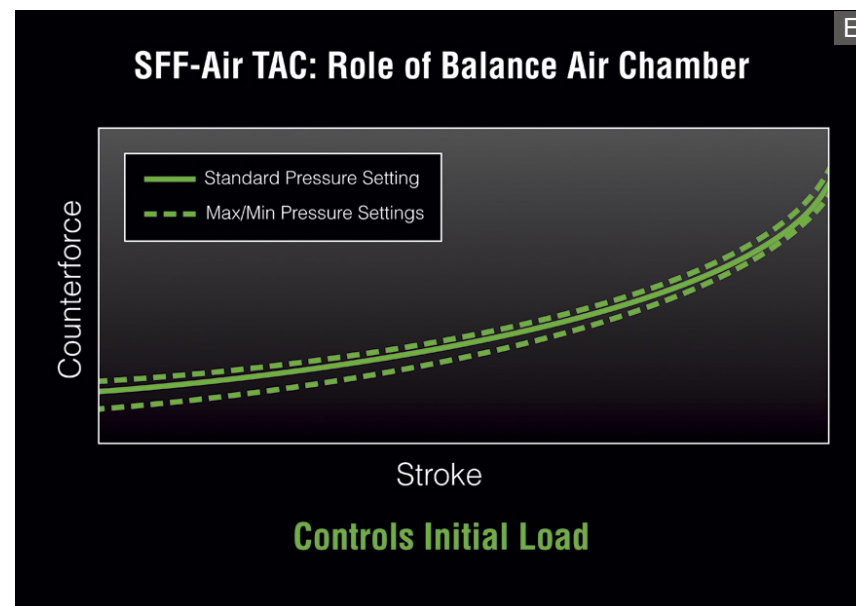




\* The outer chamber, with a standard air pressure of 100 kPa (0-130 kPa range), supports the inner chamber, much like the role of the outer cylinder air room in a conventional fork. (Illustration D)

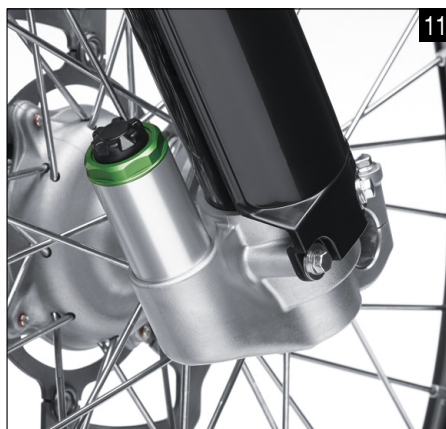


\* The balance chamber, with a standard air pressure of 1,400 kPa (530-1,400 kPa range), provides a counter-force to the inner chamber, ensuring ride comfort. When the fork is fully extended, the inner chamber pressure is at its minimum and the balance chamber pressure is at its maximum; when the fork is fully compressed, the inner chamber is at its maximum and the balance chamber pressure is at its minimum. (Illustration E)



\* Because main springs are not used, changing the fork character is much simpler on the SFF-Air TAC than changing the spring rate on a standard fork. Adjusting the air pressure in the fork easily allows the TAC “spring rate” to be adjusted – without the hassle of having to disassemble the fork. Adjustments to suit rider and track can be accomplished on site, without additional parts, and with minimal tools.

- \* Air pressure can be changed with a high-pressure tire pump. (Using a pump with a built-in air gauge and a flexible hose is recommended.) (Photos 10-11)

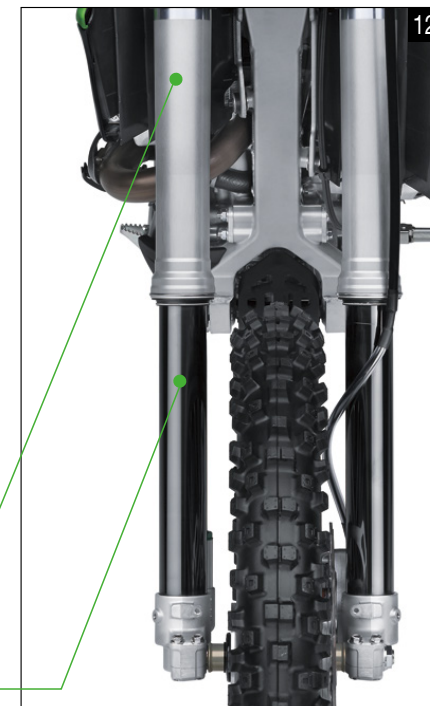


- \* Simply changing the TAC's air pressure covers the range of settings offered by optional springs for a standard fork.
- \* During the compression stroke, the pressurised air exerts a strong counterforce, contributing to bottoming resistance. However, during the rebound stroke, the pressurised air offers little resistance, contributing to increased road holding and a planted feel from the front.
- \* Friction generated between the springs and fork inner tubes in a standard fork is especially apparent in the latter half of the fork stroke. Eliminating the main springs alone reduces friction by approximately 20%. With the balance chamber, a balance spring is not necessary, allowing friction to be reduced further. The low friction results in extremely smooth action throughout the fork stroke.
- \* Being able to use a larger damper piston (thanks to the elimination of the fork springs) not only enables smoother action, it also makes firm damping performance possible. The damper piston measures  $\varnothing 30$  mm (vs  $\varnothing 24$  mm on a conventional fork).

- \* Compression and rebound damping settings can be adjusted as on a standard fork.
- \* Balance chamber pressure can be adjusted to act as an initial "preload."
- \* A super-hard titanium coating on the outer surface of the fork inner tubes helps prevent wear abrasion. The increased surface hardness of the dark navy blue coating also helps to prevent scratches and damage to the tubes. Because the surface remains smooth for a longer period, sliding friction (and stiction) is reduced and action is improved, contributing to a smoother ride. (Photo 11)

**Self-lubricating alumite coating (inside / outside)**

**Ti coating**



- \* A self-lubricating alumite coating creates a hard, low-friction surface on the outer tubes. The hard coating helps prevent wear abrasion on the inside of the tubes, ensuring the sliding surfaces remain smooth for a long time, while the outside is protected against corrosion. The lubricating material in the coat contributes to smoother suspension action (especially at the initial part of the stroke) and a better ride feel.

**NEW**

\* Low-friction seals, and revised valve settings for reduced damping deliver easier fork movement, matching the pitching characteristics to the lighter chassis.

**NEW**

\* Material trimmed from the fork inner tubes results in lower rigidity, idealised for the new chassis.

## Race-oriented rear suspension

- \* The rear shock features dual compression adjustability, allowing high-speed and low-speed damping to be tuned separately.
- \* A self-lubricating alumite coating on the tank cylinder helps prevent wear abrasion, and reduces friction for smoother suspension action.
- \* The New Uni-Trak rear suspension system mounts the suspension arm below the swingarm, allowing a longer rear suspension stroke. The longer stroke in turn allows more precise rear suspension tuning.
- \* Extensive rider testing was conducted to determine the ideal linkage ratios and rear shock absorber damping settings to achieve maximum rear wheel traction.

**NEW**

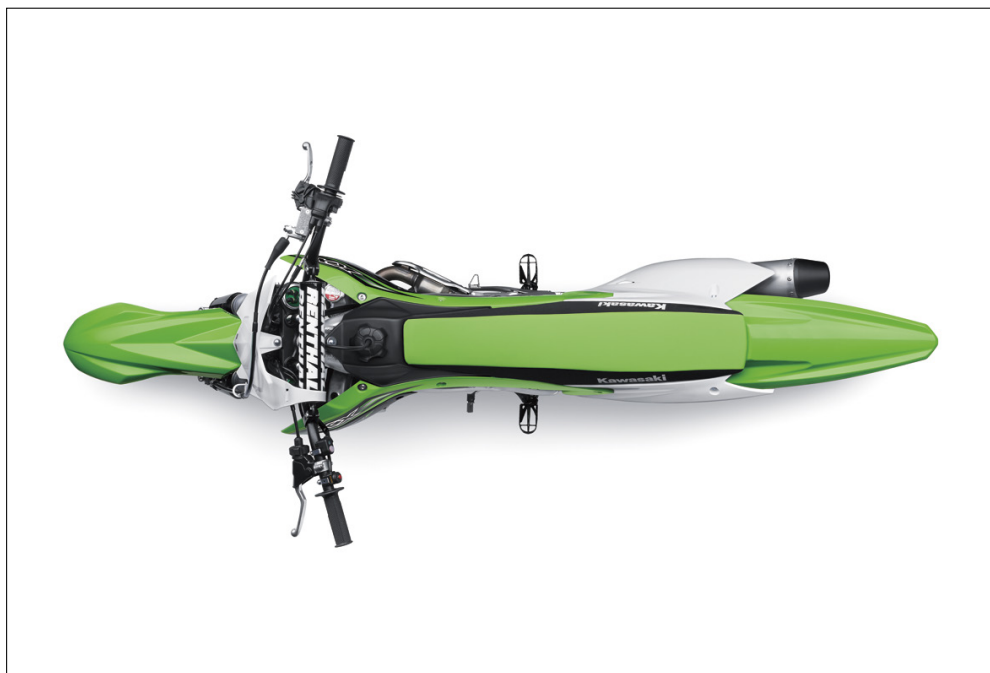
\* Lower spring rate (53 N/mm >> 52 N/mm) offers better rear suspension action.

**NEW**

\* Linkage ratios were also adjusted to suit the new, lighter chassis.

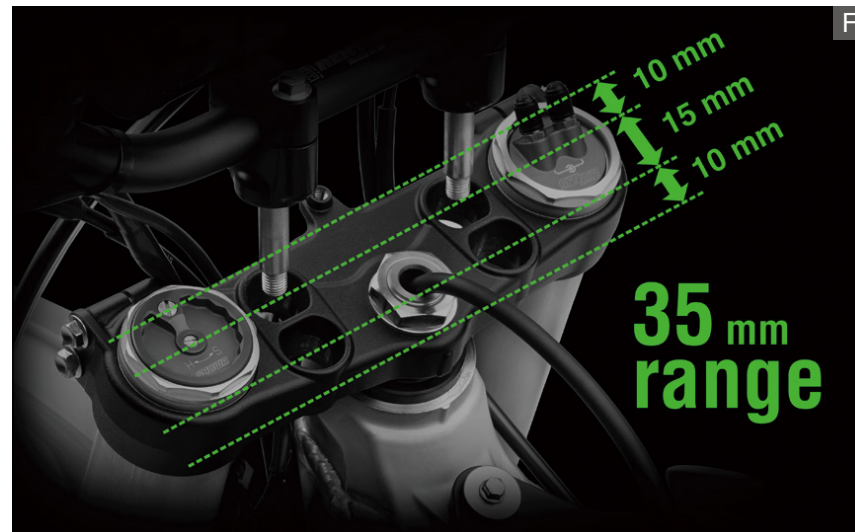
## Slimmer, adjustable rider interface

The KX450F's slimmer new frame and new radiator orientation allowed the minimalist bodywork to be redesigned. The new rider position is slimmer, and – thanks to a redesigned seat and tank – flatter, making the ergonomics even more racer-friendly. Complemented by adjustable handle and footpeg positions, the natural riding position makes it easy for racers to go fast.



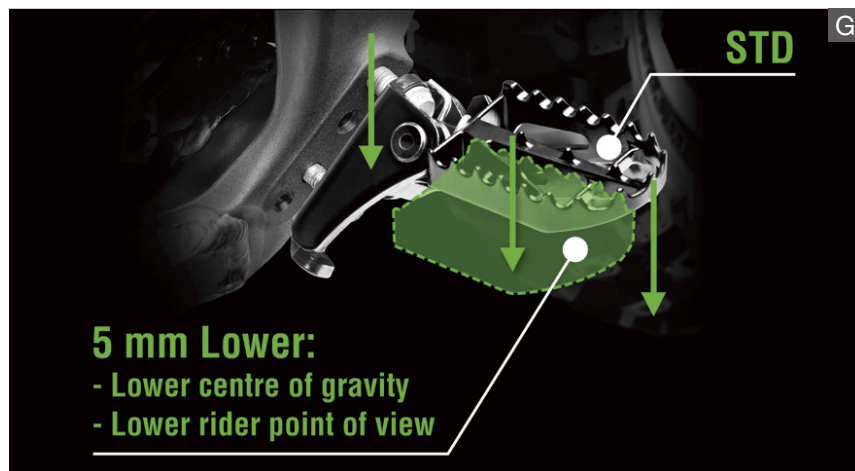
\* Upper triple clamp with two sets of handle mount slots and reversible handle mounts offers riders a choice of four handle positions to choose from: 25 mm FWD, 15 mm FWD, STD and 10 mm BK.

(Illustration F)





- \* Adjustable footpeg brackets enable riders to lower their footpeg position 5 mm. In the lower position, centre of gravity is lowered as is the rider's point of view, adding to both physical and psychological stability. (Illustration G)



- NEW** \* Narrower frame contributes to a slim package with good ergonomics. The slimmer riding position facilitates control.

- NEW** \* Top of the fuel tank is lower, allowing an even flatter progression from the seat to the tank. The flatter design gives the rider greater freedom of movement when changing riding position, and facilitates sitting farther forward. (Photo 13)

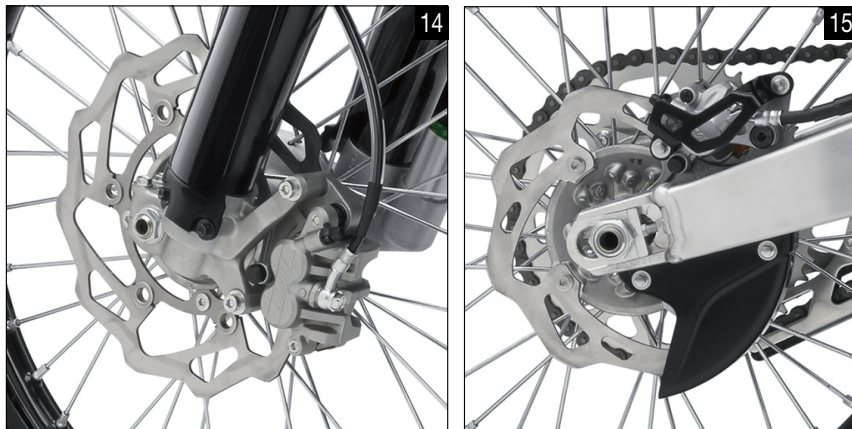


**NEW**

- \* Inward-angled orientation of the radiators (turned in 10°) allows the shrouds to be even slimmer than before (total of 32.4 mm narrower at their widest point). The minimalist shrouds were designed to be small and are slim where they come in contact with the rider's legs. Now a two-piece construction, their elongated design creates a smooth surface between the rider's legs, facilitating rider movement.
- \* Minimalist side covers were also made as small as possible.
- \* The seat uses a slip-resistant top surface for good grip when seated and smooth sides for excellent rider mobility. Seat urethane helps maintain the original shape longer.
- \* Seams between the shrouds, seat and side covers are very flush, which facilitates control as well as moving around on the bike.
- \* The frame widens at the ankles to offer the rider better grip and narrows near the bend below the seat to allow a slim riding position.
- \* Optimised exhaust pipe line also contributes to the racer-friendly ergonomics.
- \* Wide (front-to-rear) footpegs designed to offer grip and superb feel at the pegs.
- \* The clutch cable boot features a large quick adjuster, making it easier for riders to adjust play in the clutch cable.
- \* Throttle grip has a unitised collar. The one-piece unit provides additional stability during throttle operation.
- \* Lightweight grips feature a grip pattern designed to provide both excellent grip and superior cushioning for riders' hands.

## Other race-oriented chassis components

- \* Petal disc brakes are among the KX450F's numerous factory-style components. The stylish discs contribute to both sporty looks and a high-quality appearance. (Photos 14-15)



- \* Oversized semi-floating  $\varnothing 270$  mm front disc contributes to strong front brake force, as well as superb controllability.
- \* Complementing the large-diameter disc, a pushrod-type front brake master cylinder and front brake pads with a high coefficient of friction deliver strong braking force and superb control (especially for the initial bite and initial-mid stroke characteristics).
- \* Rear caliper guard protects the caliper from damage.
- \* A factory-style Renthal (standard-type) aluminium handlebar is standard equipment.
- \* Rib-less rear hub and butted spokes reduce unsprung weight.

## Factory styling

Matching the KX450F's lighter weight, all-new minimalist bodywork makes the bike look more compact. Its shroud, fender and number plate designs ensure it is the sharpest looking bike in the paddock. Factory-style graphics further reflect the KX450F's highly tuned performance, and green highlights on the suspension adjusters and engine oil cap and generator cover plugs contribute to a distinctive Kawasaki look.



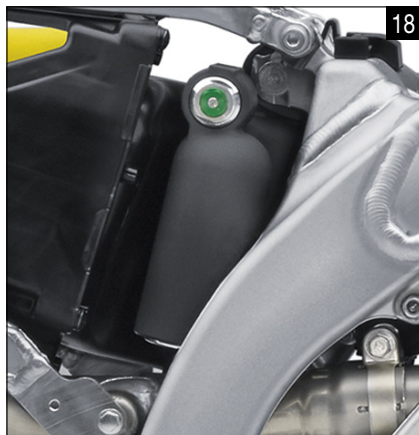
NEW

\* Aggressive design of the new front fender adds to the racy looks and saves 50 g in weight.

\* Rims are coated in black alumite<sup>1</sup> – just like our factory racers. (Photo 16)



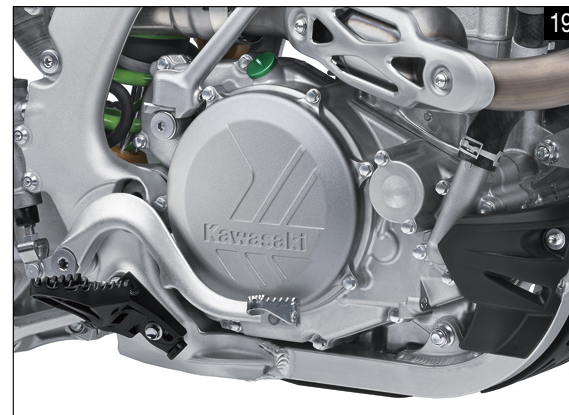
\* Fork and rear shock adjusters have a green alumite<sup>1</sup> finish like our U.S. factory racers. (Photos 17-18)



\* Green finish on the oil cap and the two plugs on the generator cover further contribute to factory looks.

NEW

\* Embossed design on the clutch cover designed to gradually appear as contact from riding boots wears off the paint. (Photo 19)



\* Engine covers are finished in silver paint, further reinforcing the KX450F's factory image.



## ADDITIONAL FEATURES

### Engine

- \* Fast-idle knob on the throttle body allows riders to increase engine speed when first starting a cold engine.
- \* The crankshaft and connecting rod received a carburising and quenching treatment for additional rigidity.
- \* The camshaft lobes feature a soft-nitriding surface treatment for long wear and high-rpm reliability.
- \* Tappet surfaces receive a carburising treatment for increased durability.
- \* The silencer uses long-fibre packing which is much more resistant to being blown out of the tail pipe than standard length packing. As a result, packing needs to be replaced half as often.

NEW

- \* New design for the aluminium rear sprocket contributes to the bike's sharp looks and saves 50 g. (Photo 20)



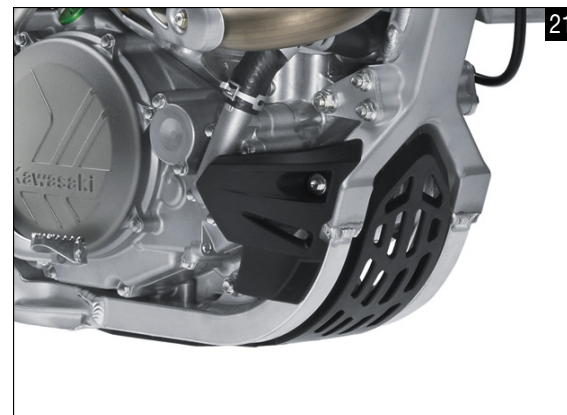
20

### Chassis

- \* The alloy swingarm uses a cast front section, tapered hydroformed spars and forged chain adjusters.

NEW

- \* Large synthetic skid plate offers great protection with minimum weight. Revised design with oval holes facilitates mud removal and weighs less. (Photo 21)



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### Other

- \* Optional engine parts include magneto rotors with different inertias (8.5, 9.5 kg-cm<sup>2</sup>; STD: 9.0 kg-cm<sup>2</sup>).
- \* Optional chassis parts include handlebar holders for a ø28.6 mm bar (STD: ø22.2 mm), aluminium and steel rear sprockets (48-52T; STD: 50T), solid petal brake rotors for wet races, and different springs for the rear shock (49, 51, 53, 55 N/mm; STD: 52 N/mm).

## COLOUR(S)

\* Lime Green with factory-style graphics



<sup>1</sup> Alumite: an anodic oxidation finishing treatment for aluminium resulting in a coloured, corrosion/scratch-resistant film coating.

## SPECIFICATIONS

### KX450HGF

ENGINE	
Type	Liquid-cooled, 4-stroke Single
Displacement	449 cm <sup>3</sup>
Bore and Stroke	96.0 x 62.1 mm
Compression ratio	12.8:1
Valve system	DOHC, 4 valves
Fuel system	Fuel injection: ø43 mm x 1
Ignition	Digital DC-CDI
Starting	Primary kick
Lubrication	Forced lubrication, semi-dry sump
DRIVETRAIN	
Transmission	5-speed
Final drive	Chain
Primary reduction ratio	2.727 (60/22)
Gear ratios: 1st	1.750 (28/16)
2nd	1.412 (24/17)
3rd	1.188 (19/16)
4th	1.000 (19/19)
5th	0.875 (21/24)
Final reduction ratio	3.846 (50/13)
Clutch	Wet multi-disc, manual

FRAME	
Type	Perimeter, aluminium
Wheel travel: front	310 mm
rear	315 mm
Tire: front	80/100-21 51M
rear	120/80-19 63M
Caster (rake)	28.0°
Trail	125 mm
Steering angle (left/right)	42° / 42°
SUSPENSION	
Front	ø49 mm inverted telescopic SFF-Air TAC (Separate Function front Fork Air - Triple Air Chamber) with adjustable compression and rebound damping
Rear	New Uni-Trak with adjustable dual-range (high/low-speed) compression damping, adjustable rebound damping and adjustable preload

## KX450HGF

BRAKES	
Front: Type	Single semi-floating ø270 mm petal disc
Caliper	Dual-piston
Rear: Type	Single ø240 mm petal disc
Caliper	Single-piston
DIMENSIONS	
Overall length	2,195 mm
Overall width	820 mm
Overall height	1,290 mm
Wheelbase	1,495 mm
Ground clearance	345 mm
Seat height	960 mm
Curb mass	108.7 kg
Fuel capacity	6.3 litres

The specifications mentioned here apply to and have been achieved by production models under standard operating conditions. We intend only to give a fair description of the vehicle and its performance capabilities but these specifications may not apply to every machine supplied for sale. Kawasaki Heavy Industries, Ltd. reserves the right to alter specifications without prior notice. Equipment illustrated and specifications may vary to meet individual markets.

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